

STATEMENT OF WORK AND DELIVERY/PERFORMANCE SCHEDULE

1. In support of the Space Interferometry Mission (SIM), the Contractor shall participate in the SIM Grid Star Verification Program, whose purpose is to verify that a catalogue of stars (the SIM Grid Star catalogue) is astrometrically stable enough to be used as the reference source for SIM's wide-angle astrometric science. The Grid Star Verification Program is limited to investigating the astrophysical "jitter" in the positions of candidate Grid Stars. The footnoted dates are "on or before" delivery/milestone dates. In performance thereof, the Contractor shall perform in accordance with the information contained in Exhibits I and II, and shall:
 - 1.1 Perform radial velocity measurements on the Candidate Stars comprising the Work Packages of Exhibit II assigned by JPL to the Contractor.
 - 1.1.1 Obtain two measurements per star, the two measurements ("Epoch 0" and "Epoch 1") separated by at least 4 months but no more than 5 months. The first measurement should be made no later than 12 months after the date of the Contract.
 - 1.1.2 Obtain two measurements per star for replacement candidate stars as specified by the SIM Project, temporally separated as in paragraph 1.1.1. The first measurement should be scheduled as soon as possible following Epoch 1, but no later than four months after Epoch 1.
 - 1.1.3 Obtain one additional measurement per surviving candidate star at "Epoch 2." Epoch 2 observations¹ shall occur two years after their respective Epoch 0 observations.
 - 1.1.4 Obtain at least two additional measurements per star for a selected circumpolar subset of 200 stars in the hemisphere(s) within the assigned Work Packages for calendar year 2003, spaced approximately 4 months apart.
 - 1.1.5 Achieve single measurement accuracies of 50 to 53 meters per second or better in the execution of paragraphs 1.1.1. thru 1.1.4 above.
 - 1.2 Present results and status reports at periodic meetings and reviews as follows:
 - 1.2.1 ***SIM Grid Group Meetings:***² Meetings with the SIM Project and representatives from all Grid Groups at or near JPL or at a location arranged by the SIM Project.

¹ **Epoch 2 Observations** – only for targets where Epoch 2 can be observed within 26 months after date of Contract (ADOC).

² **SIM Grid Group Meetings** – First is one month ADOC; thereafter every twenty-sixth week after initial SIM Grid Group Meeting.

- 1.2.2 **Grid Group Reviews:**³ Reviews of each Grid Group shall be held. The first two reviews will be held at or near JPL or at a location arranged by the SIM Project in conjunction with the SIM Grid Group Meetings described in paragraph 1.2.1. In subsequent years, one review will be held in conjunction with the SIM Grid Group Meeting of paragraph 1.2.1 above, with the other Grid Group Review held via telecon.
- 1.3 Deliver observation results of paragraphs 1.1 to the ISC in computer-readable ASCII as stated below. The specific format will be specified by the Interferometry Science Center prior to deliverable deadline as follows:
 - 1.3.1 Deliverables are **Interim Observational Reports**⁴ at intervals of six months, which are to contain a list of stars with spectra (raw data), calibrated spectra, and calibrated radial velocities in units of meters/second (Local Standard of Rest), delivered to the cognizant JPL Technical Manager.
2. JPL will:
 - 2.1 Provide the Contractor with a list of Candidate Stars upon which measurements of radial velocity are to be made. These stars will range in brightness from magnitude 10.5 to 12.5. There will be 6530 stars in the initial all-sky Candidate list.
 - 2.2 Update the list of Candidate Stars and drop objects from candidacy.
 - 2.3 Reserve the right to add additional candidate stars if attrition rates exceed 75% of initial samples, based on data provided by the Grid Groups.
 - 2.4 Release all the **data of the Interim Observational Reports** to the public upon SIM launch.
3. Exhibits

The following exhibits are attached hereto and made a part of this Contract:

 - 3.1 Exhibit I, Scientific Background, dated 1/21/03.
 - 3.2 Exhibit II, Work Packages, dated 1/21/03.

³ **Grid Group Reviews** – Every twenty-sixth week ADOC.

⁴ **Interim Observational Reports** - Every twenty-sixth week ADOC.